

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

FINAL  
Conditional Major, Operating  
Permit: F-05-044 R1  
Chevron Products Company  
Lexington, KY.  
August 27, 2008  
IL-Won Shin, Reviewer  
SOURCE ID: 21-067-00030  
AGENCY INTEREST: 1037  
ACTIVITY: APE20080001

**MINOR PERMIT REVISION - F-05-044 R1:**

Due to market pressures, the Chevron Lexington Terminal is proposing to develop the blending of ethanol with gasoline. The Terminal is proposing the following changes:

- Changing the service of Tank 4 from Diesel fuel service to denatured Ethanol service
- Adding associated piping, valves, and pumps for blending ethanol with gasoline

The ethanol will be offloaded at the tank truck loading rack (TTLR) into Tank 4 for storage and then sent back to the TTLR for blending with gasoline and final distribution onto tank trucks. Tank 4 currently has an internal floating roof (IFR) with mechanical shoe seal and therefore will not be modified to store the denatured ethanol.

Chevron is not requesting increases in emissions or throughputs for the Lexington Terminal. Chevron is requesting that emission limits for VOC and HAP and throughput limits remain the same as in the permit F-05-044.

**SOURCE DESCRIPTION - F-05-044:**

Chevron Products Company (Chevron) owns and operates a bulk petroleum products distribution terminal located at 1750 Old Frankfort Pike in Lexington, Kentucky. The facility receives a variety of refined bulk petroleum products by pipeline, stores those products in a variety of fixed and floating roof storage tanks (15 petroleum liquid storage tanks), and distributes these products by tank truck. Volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions are due to standing and working tank losses, product loading losses, and fugitive emissions.

The source consists of the following significant emission units:

- (a) Tanks:

Tank ID	Emission Point	Date Installed	Tank Height or Length (ft)	Diameter (ft)	Tank Capacity (gallons)	Product Stored
T01	EU 01	1970	47.67	39	387,917	Low Sulfur Diesel Fuel
T02	EU 02	1970	45.67	55	736,974	Regular Unleaded Gasoline
T03	EU 03	1970	47.67	67	1,095,990	Regular Unleaded Gasoline
T04	EU 04	1970, Modified 2008	43.08	39	365,232	Denatured Ethanol
T05	EU 05	1970	42.75	67	1,080,282	Supreme Unleaded Gasoline
T06	EU 06	1970	46.42	67	1,187,130	Regular Unleaded Gasoline
T07	EU 07	1970	30	10.5	18,137	Gasoline Additive
T08	EU 08	1970	30	10.5	18,137	Gasoline Additive
T09	EU 09	1970	20	10.5	9,068	Petroleum Contact Water
T10	EU 10	1984	35	12	21,135	Gasoline Mix (Transmix)
T14	EU 14	1970	23.58	12	11,624	Gasoline Mix (Transmix)
T15	EU 15	1988	15.42	10.42	8,990	Gasoline Additive

The application for renewal submitted by the permittee reflects capacities for tanks T01 through T15 that are different from those specified in the initial permit No. F-97-016, issued on December 12, 1997. The permittee has clarified during this review that the maximum capacities reflected in the initial permit are incorrect, as they reflect external shell dimensions and not the internal tank design and maximum liquid fill capacities. The maximum physical tank volume capacities reflected in the renewal application are reflected in the permit F-05-044.

For tank T14, there is a typo on page 8 of 25 in the permit F-05-044, stating that has a capacity of 20,328 gallons. The capacity of tank T14 should be 11,624 gallons. The capacity for tanks T01 and T15, listed in the permit F-05-044, is incorrect and should be 387,917 and 8,990 gallons, respectively.

Tank T04, which is being converted to denatured ethanol, will be the only tank subject to 40 CFR 60 Subpart Kb. Tank T10 was discussed extensively with Division during the 2006 air permit renewal. Certified drawings were submitted to the air permitting consultant at the time (Enviroplan Consultants) that showed tank T10 construction commenced on June 15, 1984, however operation of the tank did not begin until August 1984. Therefore, tank T10 is not subject to 40 CFR 60 Subpart Kb. Chevron requests that the permit F-04-044 show the corrected date of operation for tank T10 as being "June 1984".

(b) Loading Racks:

<b>Description</b>	Four Dedicated Vapor Balance Submerged Operation Loading Racks with a total of 16 Loading Arms and associated pipeline equipment. Construction Date: October 1970
<b>Primary Control</b>	Chevron Products Onsite Vapor Recovery Unit (VRU) Model: JT-9080-7240-1137 Manufacturer: Jordan Technologies Description: Two activated carbon beds with vacuum regeneration. Construction Date: November 1998
<b>Secondary Control</b>	Marathon Petroleum Company LLC, Lexington Terminal VRU Model: HAT-1100-355-7-8-9-2 Manufacturer: John Zinc Description: Two activated carbon beds with vacuum regeneration. Construction Date: 1981

**COMMENTS:**

**Type of control and efficiency:**

Chevron sends all required vapor streams to either Chevron's on-site vapor processing system (primary control system), with a control efficiency of 99.9%, or to the contiguous Marathon Petroleum Company Bulk terminal vapor processing system (secondary control system), with a control efficiency of 99.83%.

**Emission factors and their sources:**

The emissions for all the storage vessels are based on U.S. EPA's TANKS 4.09 program.

The following standards were used to determine the emissions associated with loading rack operations: (1) AP-42, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary and Area Sources, U.S. Environmental Protection Agency, Research Triangle Park, N.C., Supplemental Edition, September 1997, Section 7.1 and (2) AP-42, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary and Area Sources, U.S. Environmental Protection Agency, Research Triangle Park, N.C., Fifth Edition, January 1995, Section 5.2.

**Existing Approvals:**

- (a) *Federally-Enforceable Conditional Major Permit, F-97-016, issued on December 12, 1997.* This permit was the first facility-wide air quality operating approval issued to this source pursuant to 401 KAR 52:030, Federally-enforceable permits for non-major sources. The permit specified terms and conditions for the limited operation of the bulk petroleum products distribution terminal such that the requirements of 401 KAR 52:020, Title V permits, do not apply.

- (b) *Request for administrative changes submitted by permittee to KDAQ on October 9, 2001.*  
This request pertained to the construction of a 4,000 gallon storage tank for gasoline additive, designated as Tank Number 16 (T16). It was determined by the Division that this activity can be covered per 401 KAR 52:030, Section 17 **Off-Permit and Section 502(b)(10) Changes**. Therefore, no permit revision was required. Per section 6 of the same Chapter, this unit was considered insignificant (HAP and non-HAP emissions attributable to the tank are less than one-half ton per year (tpy) and 5 tpy, respectively), and was reflected as such in the renewal permit F-05-044.
- (c) *Request for changes to the facility submitted by permittee to KDAQ on November 24, 2003.*  
This request pertained to the installation of a 500 gallon self-contained skid tank to store BP gasoline additive, designated as Tank Number 20 (T20). It was determined by the Division that this activity can be covered per 401 KAR 52:030, Section 17 **Off-Permit and Section 502(b)(10) Changes**. Therefore, no permit revision was required. Per section 6 of the same Chapter, this unit was considered insignificant (HAP and non-HAP emissions attributable to the tank are less than one-half ton per year (tpy) and 5 tpy, respectively), and was reflected as such in the renewal permit F-05-044.
- (d) *Request for changes to the facility submitted by the permittee to KDAQ on January 26, 2005.*  
Installation of an 8,000 gallon self-contained horizontal tank to store Infineum R621, designated as Tank Number 19 (T19). It was determined by the Division that this activity can be covered per 401 KAR 52:030, Section 17 **Off-Permit and Section 502(b)(10) Changes**. Therefore, no permit revision was required. Per section 6 of the same Chapter, this unit was considered insignificant (HAP and non-HAP emissions attributable to the tank are less than one-half ton per year (tpy) and 5 tpy, respectively), and was reflected as such in the renewal permit F-05-044.

**Applicable Regulations:**

- (a) 401 KAR 52:030, *Federally enforceable permits for nonmajor sources*, applies to sources that accept permit conditions that are legally and practically enforceable to limit their potential to emit (PTE) below the major source thresholds that would make them subject to 401 KAR 52:020.
- (b) 401 KAR 63:020, *Potentially hazardous matter or toxic substances*, applies to each process unit which emits or may emit potentially hazardous matter or toxic substances. An air toxics risk assessment will be performed by the Division at the next significant modification or permit renewal, whichever comes first.
- (c) 40 CFR 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984*, applies to tank T04 with a capacity greater than or equal to 75 cubic meters (m<sup>3</sup>) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

**Non-Applicable Regulations:**

- (a) *401 KAR 59:095, New Oil-effluent water separators*  
On February 15, 2001, the Division approved the installation of an oil-water separator with two underground tanks, one 10,000 Gallon Separator (T18) and one 10,000 Gallon Surge Tank (T21). These were approved as insignificant activities and added to Section C of the initial Conditional Major permit. Fayette County is not a nonattainment area for ozone under 401 KAR 51:010, nor is this source a major source of VOC. Therefore, this rule does not apply to this equipment. This determination is consistent with that made by the Division in 2001.
- (b) *401 KAR 59:101, New bulk gasoline plants*  
This facility is a bulk gasoline storage terminal. The plant receives gasoline via pipeline and dispenses gasoline using tank trucks for outgoing gasoline transfer operations. This rule does not apply since (1) the facility does not meet the definition of a *bulk gasoline plant*, (2) the facility commenced before the classification date of June 29, 1979, (3) the facility is not located in an ozone nonattainment area, and (4) the facility is not a major source.
- (c) *40 CFR 60 Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978*, is not applicable because the tanks were not constructed after June 11, 1973, and prior to May 19, 1978.
- (d) *40 CFR 60 Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984*, is not applicable because the tanks were not constructed after May 18, 1978, and prior to July 23, 1984.
- (e) *401 KAR 61:055, Existing loading facilities at bulk gasoline terminals*  
This facility is a bulk gasoline storage terminal. The plant receives gasoline via pipeline and dispenses gasoline using tank trucks for outgoing gasoline transfer operations. While the facility commenced before the classification date of June 29, 1979, it is not located in an ozone nonattainment area as defined in 401 KAR 51:010; and it is not a major source of VOC. Therefore, this rule does not apply to this facility.
- (f) *401 KAR 61:056, Existing bulk gasoline plants*  
This facility is a bulk gasoline storage terminal. The plant receives gasoline via pipeline and dispenses gasoline using tank trucks for outgoing gasoline transfer operations. While the facility commenced before the classification date of June 29, 1979, it is not located in an ozone nonattainment area as defined in 401 KAR 51:010, nor is it a bulk gasoline plant as defined in 401 KAR 61:056, Section 1. Therefore, this rule does not apply.
- (g) *401 KAR 63:031, Leaks from gasoline tank trucks*  
The source does not load gasoline into gasoline tank trucks, as a defined *affected facility*, in a county or portion of a county designated ozone nonattainment under 401 KAR 51:010. Therefore, the requirements of this rule do not apply to this source. This notwithstanding, the permittee shall comply with the requirements of 40 CFR 60 Subpart XX, including vapor tightness requirements for gasoline tank truck loading, as specified in the permit.
- (h) There are no *NESHAPs* (40 CFR 63 and 401 KAR 63) applicable to this existing area source

for HAP emissions, as such is defined in 40 CFR 63.2.

- (i) The requirements of 40 CFR 64, *Compliance Assurance Monitoring*, are not included in the permit for any emission unit at this source because this source is being approved to operate under a Conditional Major permit and, pursuant to 40 CFR 64.2(a), the requirements of this rule are applicable only to a source required to obtain a Title V (Part 70 or 71) permit.
- (j) *401 KAR 59:050, New Storage Vessels for Petroleum Liquids*. This regulation is not applicable. The facility is not in a county designated nonattainment for ozone or a major source of VOC.
- (k) *401 KAR 61:050 Existing Storage Vessels for Petroleum Liquids*. This regulation is not applicable. The facility is not in a county designated nonattainment for ozone or a major source of VOC.
- (l) 40 CFR 60 Subpart XX, *Standards of Performance for Bulk Gasoline Terminals* does not apply since the Loading Rack (EP 16) was installed in 1970 and there was no reconstruction or modification of this emission unit after this date. This notwithstanding, the Division has determined during this review that in order to demonstrate compliance with the source-wide emission limitations, specified in **Section D.3, Source Emission Limitations**, of the permit, control units shall operate according to 40 CFR 60.500 to 60.506 (Subpart XX). To comply with the requirements for the vapor collection and processing systems, the source shall send all required vapor streams to either Chevron's on-site vapor processing system (primary) or the contiguous Marathon Petroleum Company Bulk Terminal vapor processing system (secondary).

**EMISSION AND OPERATING CAPS DESCRIPTION:**

Chevron has requested voluntary permit emission limits of 9 tons per year (tpy) or less of a single HAP, 22.5 tpy or less of combined HAPs, and 90 tpy or less of VOC. Compliance with these permit limits shall make the requirements of 401 KAR 52:020, Title V permits, not applicable to this source. These voluntary emission limitations are revised from the respective limits of less than 10 tpy, 25 tpy, and 100 tpy specified in initial Permit No. F-97-016, issued on December 12, 1997, to account for emissions due to insignificant activities. Compliance with the VOC limit shall also make this source a synthetic minor source pursuant to 401 KAR 51:017, prevention of significant deterioration of air quality.

**PERIODIC MONITORING:**

The permittee shall continue to perform monthly leak inspection monitoring as reflected in **Section B** for the Loading Racks in the permit.

**OPERATIONAL FLEXIBILITY:**

In order to achieve compliance with the pollutant emission limits specified above, Chevron has requested a voluntary permit limit restricting the total facility throughput of gasoline, slop oil, and gasoline additives to not exceed 250,000,000 gallons per year and total facility throughput of diesel to not exceed 200,000,000 gallons per year. In addition, Chevron is requesting that the denatured ethanol throughput be combined with the facility gasoline, slop oil, and gasoline additives throughput and remain < 250,000,000 gallons per year.

**CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.